SOIL SAMPLING SURVEY

for

TENNEY PAVONI ASSOCIATES, INC.
Bike Path

North Chicago, Illinois

June, 1992

AIRES

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North Chicago, Illinois

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Prepared by:

AIRES ENVIRONMENTAL SERVICES, LIMITED

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92-2518R

AIRES

TABLE OF CONTENTS

AIRES

INTRODUCTION

Aires Environmental Services, Limited was retained by Tenney Pavoni Associates, Inc. (TPA) to conduct soil sampling at:

PROPOSED BIKE PATH
North Chicago, Illinois

The soil sampling was conducted at the request of Mr. John Clinnin of TPA. Aires' on-site contact was also Mr. Clinnin. The work was conducted on June 29, 1992 by Mr. Robert M. Lehmann, Environmental Geologist of Aires Environmental Services, Limited.

The objectives of the soil sampling were to investigate the following:

1. If contamination in the proposed bike path area has occurred.

2. The type, concentration, and location of contamination.

The soil sampling that was discussed in this report is based on observations of the work that was conducted on the day stated above.

METHODOLOGY

The methodology employed to perform this investigation included the following:

1. Locations of soil borings were established to best represent the soil conditions and a representative sample of the proposed bike path.

2. Decontamination of the hand auger (HA) and equipment/tools was conducted prior to each use.

3. Samples were collected using a 3 1/4 inch stainless steel HA with extension rods.

4. Each sample was placed in a dedicated sample container with a unique sample and description label placed on each sample container.

5. Samples were kept on ice (4°C) after collection and during transportation to the laboratory.

6. Samples were analyzed for Total Priority Pollutants in accordance with the U.S. Environmental Protection Agency (EPA) Method.

7. Borings were back filled with cuttings after sampling was completed.

The proposed bike path area is located along Commonwealth Avenue in North Chicago, Illinois (refer to Figures 1 through 3 for path location). This bike path is the center section that will connect two existing paths. Three 1' deep borings were conducted at three separate locations along the bike path. The soil that was encountered during the boring activities was a black, moist soil in the northern end and construction fill toward the southern end of the scope of work.

The soil analysis indicated that minor levels of petroleum based compounds which are commonly associated with gasoline diesel fuel are present. The results also indicate that no metals, pesticides, or PCB's are present in the soil above the IEPA standard. These contaminates may be present due to run-off from the road and

parking of vehicles along the proposed bike path area.

An elevated level of chloroform in the soil is present in B1 and B2. The results indicated that chloroform was found in the soil at levels of 0.019 and 0.038 milligrams per kilograms (mg/kg) or parts per million (ppm). The IEPA standard for chloroform in soil in 0.02 mg/kg.

At this present time, there are no regulations requiring any remedial activities to be conducted at this site. However, if voluntary clean up is an item to pursue, then intervention and clean up standards will be set by the IEPA.

CONFIDENTIALITY

Aires Environmental Services, Limited has treated all aspects of this study as strictly confidential. No information nor recommendations have been released to other parties, including employees, federal agencies, or other government bodies.

Aires Environmental Services, Limited has conducted this study in the interest of Tenney Pavoni and Associates. In this respect, we hope the results of this study are useful to you. Results are based on conditions observed during our survey. If you have any questions concerning this study please let us know.

Respectfully submitted,

AIRES ENVIRONMENTAL SERVICES, LIMITED

Robert M. Lehmann
Environmental Geologist

Geoffrey J. Bacci, M.S., C.I.H.
Director - Operations

F I G U R E S 1 - 3

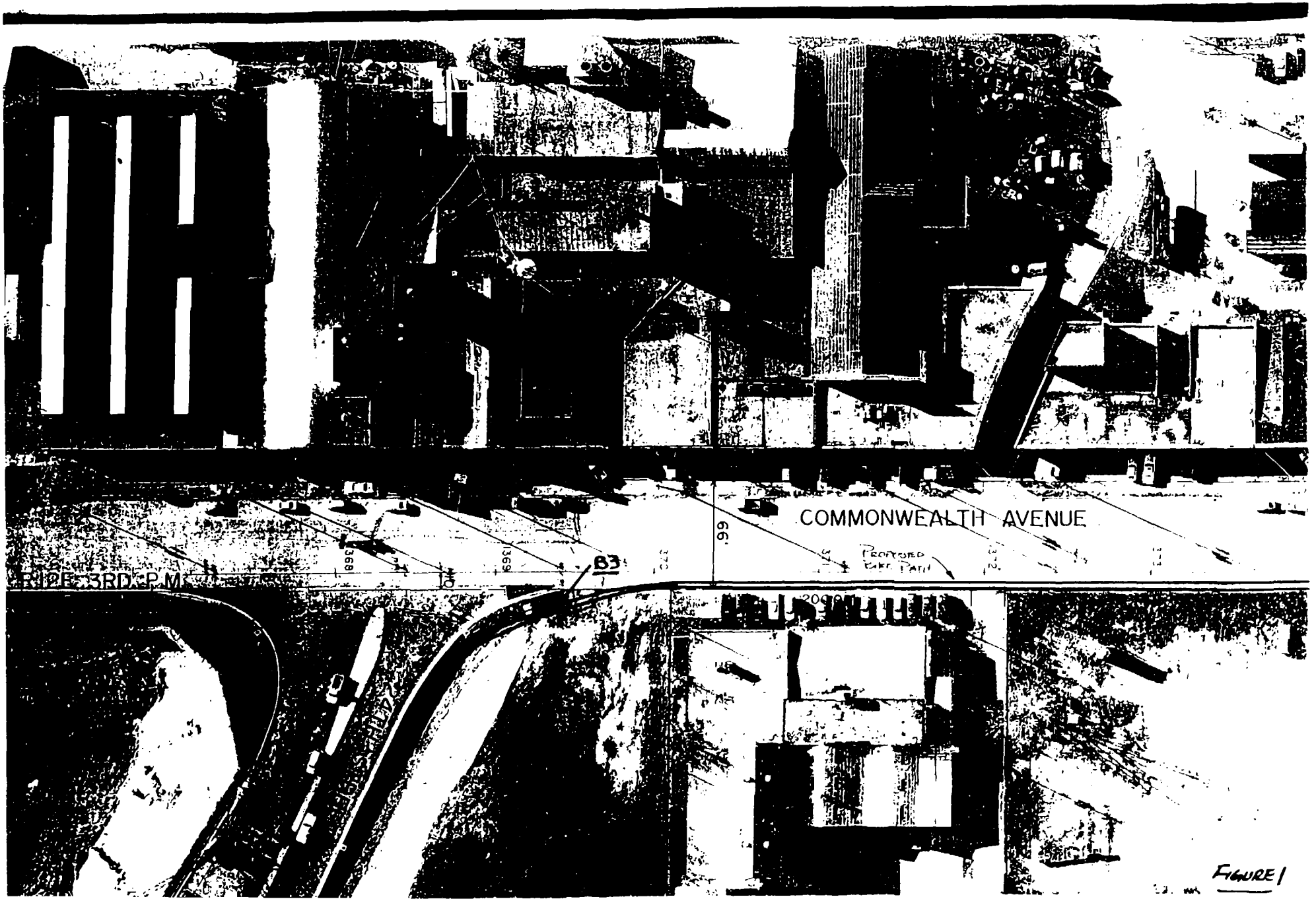


FIGURE 1

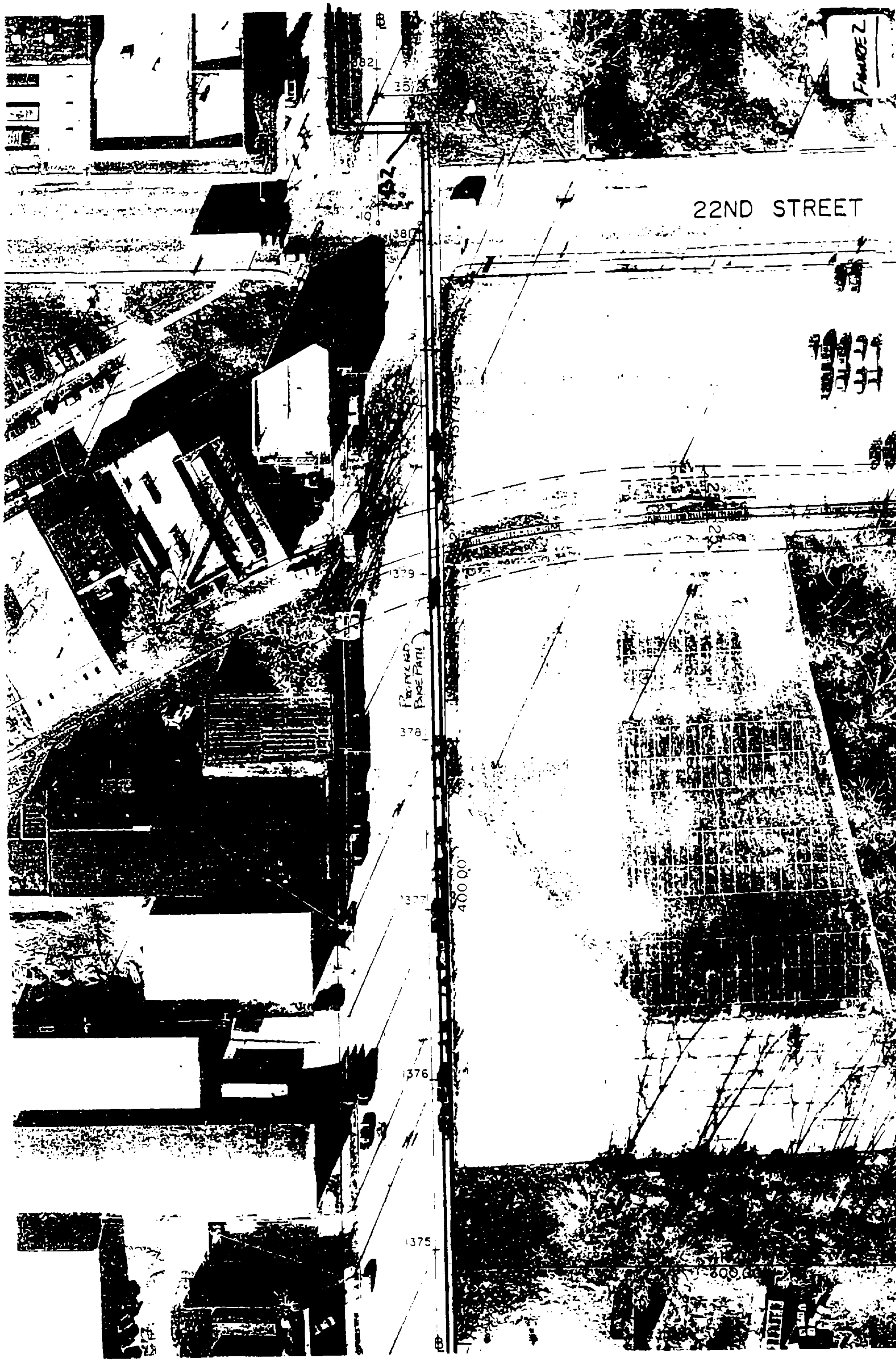
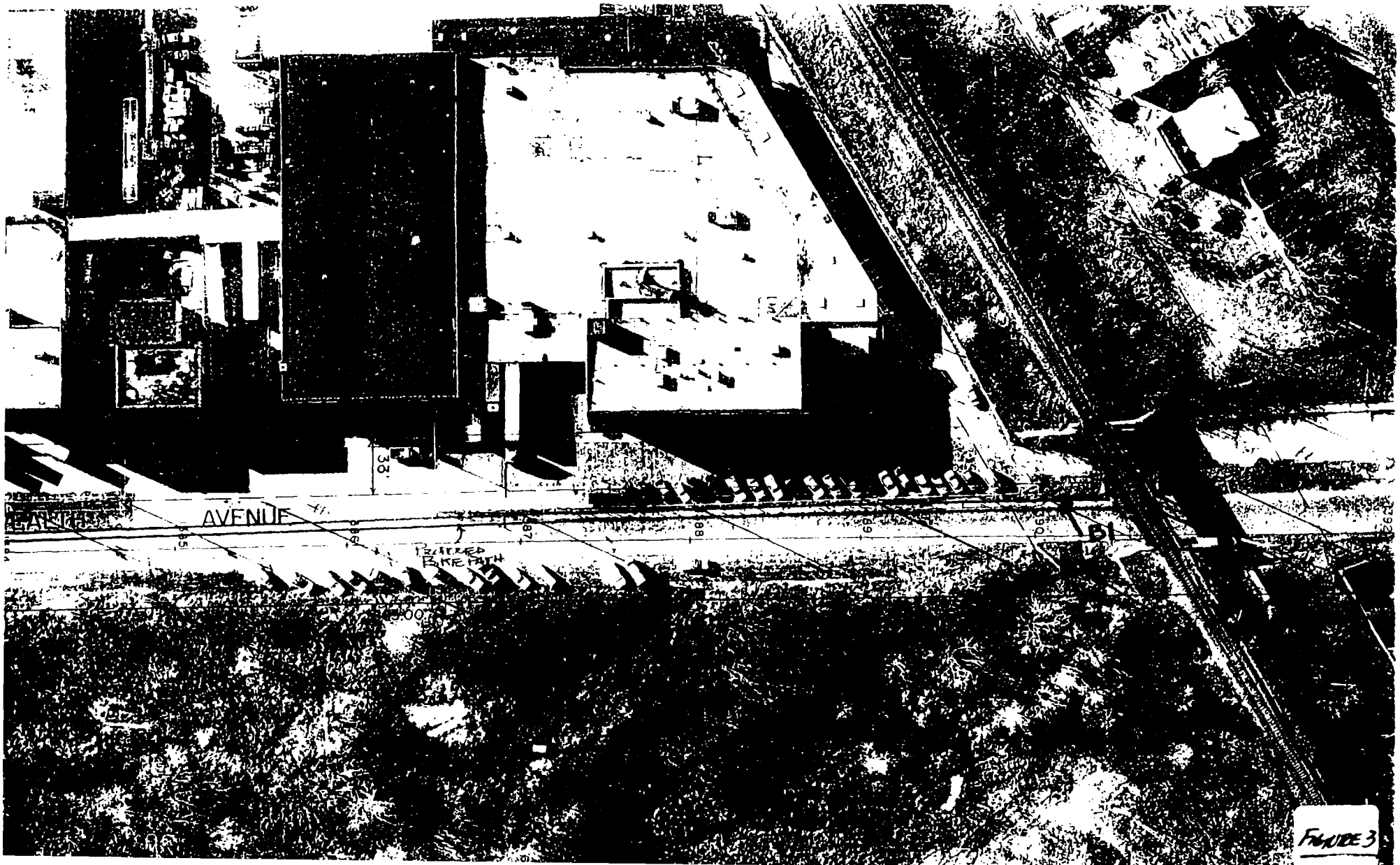


FIGURE 2


AVENUE
PREFERRED BIKE PATH
38'
FIGURE 3

A P P E N D I X A

Soil Sample Results

CENTURI SCIENTIFIC LABORATORIES INC.

LABORATORY REPORT

July 10, 1992

Aires Environmental Services, LTD.
1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP # : 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

VOLATILES

ANALYTE	MDL*	Boring #1	Boring #2	Boring #3
Acetone	0.050	<0.050	<0.050	<0.050
Benzene	0.002	<0.002	<0.002	<0.002
Bromoform	0.005	<0.005	<0.005	<0.005
2-Butanone	0.050	<0.050	<0.050	<0.050
Carbon disulfide	0.005	<0.005	<0.005	<0.005
Carbon tetrachloride	0.005	<0.005	<0.005	<0.005
Chlorobenzene	0.005	<0.005	<0.005	<0.005
Chlorodibromomethane	0.005	<0.005	<0.005	<0.005
2-Chloroethyl vinyl ether	0.005	<0.005	<0.005	<0.005
Chloroform	0.005	0.038	0.019	<0.005
Dibromomethane	0.005	<0.005	<0.005	<0.005
1,4-Dichloro-2-butane	0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.005	<0.005	<0.005	<0.005
t-1,2-Dichloroethene	0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	0.005	<0.005	<0.005	<0.005
c-1,3-Dichloropropene	0.005	<0.005	<0.005	<0.005
t-1,3-Dichloropropene	0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.002	<0.002	0.006	<0.002
Ethyl methacrylate	0.005	<0.005	<0.005	<0.005
2-Hexanone	0.005	<0.005	<0.005	<0.005
Methylene chloride	0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	0.005	<0.005	<0.005	<0.005
Styrene	0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005
Tetrachloroethene	0.005	<0.005	<0.005	<0.005
Toluene	0.002	<0.002	<0.002	<0.002
1,1,1-Trichloroethane	0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005
Trichloroethene	0.005	<0.005	<0.005	<0.005
1,2,3-Trichloropropane	0.005	<0.005	<0.005	<0.005
Total Xylenes	0.005	<0.005	0.040	0.026
Vinyl chloride	0.010	<0.010	<0.010	<0.010

Carrie K. White

CARRIE K. WHITE
LABORATORY DIRECTOR

*Method Detection Limit.
Results expressed as ppm mg/kg.

ALL SAMPLES ANALYZED AS PER SW-846, METHOD 8240.

CENTURI SCIENTIFIC LABORATORIES INC

LABORATORY REPORT

July 10, 1992

Aires Environmental Services, LTD
1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP #: 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

PESTICIDES/PCB'S

ANALYTE	Boring #1	Boring #2	Boring #3
a-BHC	<0.05	<0.05	<0.0
b-BHC	<0.05	<0.05	<0.0
d-BHC	<0.05	<0.05	<0.0
g-BHC	<0.05	<0.05	<0.0
Heptachlor	<0.05	<0.05	<0.0
Aldrin	<0.05	<0.05	<0.0
Heptachlor epoxide	<0.05	<0.05	<0.0
Endosulfan I	<0.05	<0.05	<0.0
Dieldrin	<0.1	<0.1	<0.1
4,4'-DDE	<0.1	<0.1	<0.1
Endrin	<0.1	<0.1	<0.1
Endosulfan II	<0.1	<0.1	<0.1
4,4'-DDD	<0.1	<0.1	<0.1
Endosulfan sulfate	<0.1	<0.1	<0.1
4,4'-DDT	<0.1	<0.1	<0.1
Methoxychlor	<0.5	<0.5	<0.5
Endrin ketone	<0.1	<0.1	<0.1
Chlordane	<0.5	<0.5	<0.5
Toxaphene	<5.0	<5.0	<5.0
Arochlor 1016	<1.0	<1.0	<1.0
Arochlor 1221	<5.0	<5.0	<5.0
Arochlor 1232	<1.0	<1.0	<1.0
Arochlor 1242	<1.0	<1.0	<1.0
Arochlor 1248	<1.0	<1.0	<1.0
Arochlor 1254	<1.0	<1.0	<1.0
Arochlor 1260	<1.0	<1.0	<1.0

Carrie K. White

Carrie K. White
Laboratory Director

Results expressed as ppm (mg/kg)

ALL SAMPLES ANALYZED AS PER SW-846, METHOD 8080.

CENTURI SCIENTIFIC LABORATORIES INC.

LABORATORY REPORT

July 10, 1992

Aires Environmental Services, LTD.
1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP #: 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

ACID EXTRACTABLES

ANALYTE	Boring #1	Boring #2	Boring #3
Phenol	<0.05	<0.05	0.09
2-Nitrophenol	<0.05	<0.05	<0.05
4-Nitrophenol	<0.05	<0.05	<0.05
2,4-Dinitrophenol	<0.05	<0.05	<0.05
Pentachlorophenol	<0.05	<0.05	<0.05
2-Chlorophenol	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	<0.05	<0.05	<0.05
2,4-Dimethyl phenol	<0.05	<0.05	<0.05
2-Methylphenol	<0.05	<0.05	<0.05
4-Methylphenol	<0.05	<0.05	<0.05
2,4-Dichlorophenol	<0.05	<0.05	<0.05
4-Chloro-3-methylphenol	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	<0.05	<0.05	<0.05
2-Methyl-4,6-dinitrophenol	<0.05	<0.05	<0.05

Carrie K. White

CARRIE K. WHITE
LABORATORY DIRECTOR

Results expressed as ppm (mg/kg)

ALL SAMPLES ANALYZED AS PER SW-846, METHOD 8250.

CENTURI SCIENTIFIC LABORATORIES INC.

LABORATORY REPORT

July 10, 1992

Aires Environmental Services, LTD.
1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP #: 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

BASE NEUTRALS

ANALYTE	Boring #1	Boring #2	Boring #3
1,2-Dichlorobenzene	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	<0.05	<0.05	<0.05
Hexachloroethane	<0.05	<0.05	<0.05
Hexachlorobutadiene	<0.05	<0.05	<0.05
Hexachlorobenzene	<0.05	<0.05	<0.05
1,2,4-Trichlorobenzene	<0.05	<0.05	<0.05
bis(2-Chloroethoxy)methane	<0.05	<0.05	<0.05
Naphthalene	<0.660	<0.660	<0.660
2-Chloronaphthalene	<0.05	<0.05	<0.05
Isophorone	<0.05	<0.05	<0.05
Nitrobenzene	<0.05	<0.05	<0.05
2,4-Dinitrotoluene	<0.05	<0.05	0.32
2,6-Dinitrotoluene	0.12	<0.05	0.19
4-Bromophenyl phenyl ether	<0.05	<0.05	<0.05
bis(2-Ethylhexyl)phthalate	<0.05	<0.05	<0.05
Di-n-octyl phthalate	<0.05	<0.05	<0.05
Dimethylphthalate	<0.05	<0.05	<0.05
Diethylphthalate	<0.05	<0.05	<0.05
Fluorene	<0.140	<0.140	<0.140
Fluoranthene	1.41	<0.660	1.38
Chrysene	0.437	0.297	0.295

Carrie K. White

CARRIE K. WHITE
LABORATORY DIRECTOR

All results expressed as ppm (mg/kg)

ALL SAMPLES ANALYZED AS PER SW-846, METHOD 8250.

CENTURI SCIENTIFIC LABORATORIES INC.

LABORATORY REPORT

July 10, 1992

Aires Environmental Services, LTD.
1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP #: 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

BASE NEUTRALS-SHEET 2

ANALYTE	Boring #1	Boring #2	Boring #3
Pyrene	1.93	0.932	1.97
henanthrene	1.43	<0.660	1.11
Anthracene	<0.660	<0.660	<0.660
Benzo(a)anthracene	0.297	0.187	0.216
Benzo(b)fluoranthene	0.387	0.216	0.346
Benzo(k)fluoranthene	0.300	0.137	0.338
Benzo(a)pyrene	0.410	0.183	0.461
Indeno(1,2,3-c,d)pyrene	<0.029	0.171	0.458
Dibenzo(a,h)anthracene	<0.020	<0.020	<0.020
Benzo(g,h,i)perylene	0.198	0.150	0.430
4-Chlorophenyl phenyl ether	<0.05	<0.05	<0.05
3,3' Dichlorobenzidine	<0.05	<0.05	<0.05
Benzidine	<0.05	<0.05	<0.05
bis(2-chloroethyl)ether	<0.05	<0.05	<0.05
Hexachlorocyclopentadiene	<0.05	<0.05	<0.05
N-Nitrosodiphenylamine	0.08	<0.05	<0.05
Acenaphthylene	<0.660	<0.660	<0.660
cenaphthene	<1.200	<1.200	<1.200
utyl benzyl phthalate	<0.05	<0.05	<0.05
N-Nitrosodimethyl amine	<0.05	<0.05	<0.05
N-Nitrosodi-n-propyl amine	<0.05	<0.05	<0.05
bis(2-Chloroisopropyl)ether	<0.05	<0.05	<0.05
Benzoic acid	<0.05	<0.05	0.08
Azobenzene	<0.05	<0.05	<0.05

Carrie K. White

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All results expressed as ppm (mg/kg)

ALL SAMPLES ANALYZED AS PER SW-846, METHOD 8250.

CENTURI SCIENTIFIC LABORATORIES INC

LABORATORY REPORT

July 10, 1992

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1550 Hubbard Avenue
Batavia, Illinois 60510

SAMPLE RECEIVED: 06-29-92

CENTURI LP #: 0739

PROJECT NAME: Bike Path
PROJECT #: 92-2518

TCLP METALS
(In accordance with EPA SW-846 and CFR, part 268 appendix I.)

	Boring #1	Boring #2	Boring #3
Arsenic	<0.01	<0.01	<0.01
Barium	1.90	1.65	1.73
Cadmium	<0.02	0.05	<0.02
Chromium	<0.05	0.08	<0.05
Lead	<0.10	<0.10	<0.10
Mercury	<0.005	<0.005	<0.005
Selenium	<0.02	<0.02	<0.02
Silver	<0.02	<0.02	<0.02

Carrie K. White

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LABORATORY DIRECTOR

Results expressed as ppm (mg/l)